

PUBLIC RECORDS DIVISION  
STATE PUBLICATIONS PROGRAM  
1996-0626  
NR 67.9/L253: 08/04:1996

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K E N T U C K Y

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# Land & Water

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Volume 8, Number 4

Fall 1996



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Kentucky Natural Resources and Environmental Protection Cabinet

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**Kentucky Natural Resources  
and  
Environmental Protection  
Cabinet**

**James E. Bickford**  
Secretary

**Roy A. Massey**  
Deputy Secretary

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**Commissioners**

**Robert Logan**  
Department for Environmental  
Protection

**Dr. William H. Martin III**  
Department for Natural Resources

**Carl E. Campbell**  
Department for Surface Mining  
Reclamation and Enforcement

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**Glenna Jo (Jody) Curry**  
General Counsel

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**Paul E. Patton, Governor**

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*Land, Air and Water* is published quarterly by the Natural Resources and Environmental Protection Cabinet with state and federal funds. Subscription to this publication is free. Just write the Public Information and Education Branch, Division of Administrative Services, 4th Floor, Capital Plaza Tower, Frankfort, KY 40601 or phone (502) 564-5525 to have your name added to the mailing list. Address changes and deletions also should be sent to this office or faxed to 502/564-2043.

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## Conference on the Environment offers "dynamic" agenda

*Dynamic Strategies — A New Direction* is the theme for the 21st Annual Governor's Conference on the Environment. The conference will be held Oct. 29-30 at the Lexington Civic Center and the Hyatt Regency Lexington.

The agenda for this year's conference will present the dynamic strategies being implemented to better manage the work of the cabinet through permit improvement and reengineering. Sessions will offer overviews on new directions the cabinet is taking to manage illegal dumping problems, water issues and forestry initiatives.

Presentations will be made by Gov. Paul E. Patton, Cabinet Secretary James E. Bickford and members of the cabinet's executive staff about the progress made in the first 10 months of this administration and improvements to come in how business is conducted in the cabinet.

On-site registration will be available from 3 p.m. to 6:30 p.m. Oct. 29 and beginning at 7 a.m. on Oct. 30 at the Lexington Civic Center. All conference sessions will be held in the Civic Center.

The Secretary's Reception will be held from 6 p.m. to 8 p.m. on Oct. 29 in the Glass Garden Restaurant in the Hyatt Regency Lexington.

Roy A. Massey, deputy secretary of the cabinet, will open the conference on Oct. 30. Secretary Bickford will discuss the administration's emphasis on quality environmental management and the changes being made in the way the cabinet does business.

Commissioners from the cabinet's three departments — Robert Logan, Department for Environmental Protection, William Martin, Department for Natural Resources, and Carl Campbell, Department for Surface Mining Reclamation and Enforcement — will discuss improvements that have already been made in their agencies.

A panel of state and local government officials will discuss the progress they have made in the first six months of the

Statewide Initiative to Stop Illegal Dumping.

One hour will be devoted to presentations on the cabinet's approach to water issues. Steve Coleman, director of the Division of Conservation, will discuss the development of the Statewide Agriculture Water Quality Plan, which contains measures to protect the environment from agriculture and silviculture activities.

Lee Colton, watershed coordinator for the cabinet, will discuss how Kentucky's shift to watershed management is being organized.

William J. Kovacic, field office director of the federal Office of Surface Mining Reclamation and Enforcement, will provide an overview of the Clean Streams Initiative that seeks to involve the public, government agencies, researchers and the coal industry in cleaning up streams polluted by acid drainage.

Gov. Patton has been invited to be the luncheon speaker. He will discuss his administration's mission for environmental protection and outline the improvements in environmental and resource management that are expected to come from re-engineering activities in state government. He will also assist in the presentation of the Governor's Environmental Excellence Awards and the recognition of Outstanding Employees for the Natural Resources and Environmental Protection Cabinet.

Two sessions will be held after lunch. Mark Matuszewski, director of the Division of Forestry, will report on the status of the Forest Stewardship Initiatives, and Secretary Bickford will lead a discussion about changes being made to the cabinet's permitting processes that will deliver more efficient and effective services to taxpayers and the regulated community.

For information about the conference, call 502/564-7320. For hotel accommodations, call the Hyatt Regency Lexington at 800/223-1234.

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Printed on recycled paper with state and federal funds



## EMPOWER Kentucky in first phase

# Permitting changes occurring

EMPOWER Kentucky is Gov. Paul Patton's initiative to improve service delivery and identify areas for savings in state government. The initiative was announced earlier this year, and thus far, teams of state employees have been busy "mapping" steps necessary to get a particular job done in 16 areas of government. The brown paper maps illustrate step-by-step what has to occur, for example, to make a purchase, to title vehicles, to process a travel voucher or to provide meals to prison inmates.

For the Natural Resources and Environmental Protection Cabinet, electronic permitting is the process that was selected for incorporation into EMPOWER Kentucky as a means of meeting the cabinet's goal of protecting human health and preserving Kentucky's environment. Secretary James E. Bickford believes EMPOWER Kentucky offers the cabinet an exciting opportunity to use technology to improve programs. Nine sub-processes are included in the cabinet's reengineering effort: eight program areas in the Department for Environmental Protection and one in the Department for Surface Mining Reclamation and Enforcement.

In the Department for Environmental Protection, a covered watershed protection/management plan is being studied, as well as continuous improvement of the Kentucky Pollutant Discharge Elimination System permits and wastewater treatment facility construction reviews, drinking water program assessment, hazardous waste permit process streamlining, solid waste permit process assessment and streamlining, public understanding of underground storage tank processes, and air quality permit review and decision making.

The Department for Surface Mining Reclamation and Enforcement is working to improve its permitting process. As its Division of Permits staff has gone about charting the processes for obtaining a surface mining permit, areas for improvement have been identified and changes made.

One primary change is the assignment of applications to the same permit reviewer for administrative and technical review. These reviews previously were conducted in separate sections within the division by different permit reviewers. It was decided this often resulted in redundancy and lack of continuity in the permitting process.

The Division of Permits also has implemented new internal quality control procedures to assist the management staff in maintaining a "top-of-the-mind awareness" that ensures quality reviews are conducted in a timely manner.

The division staff is looking to the reengineering process to improve its workflow and save time, money and frustration for both employees and permittees.

The cabinet's effort is directed toward improving those nine processes for permitting, registration or certification, to make those programs more efficient and cost-effective for the customer and the taxpayer. Reengineering these programs will result not only in technological improvements, but also positive changes in daily operations and procedures. Without making needed process improvements, the cabinet will not be able to take full advantage of the benefits of new technology.

This ambitious undertaking, the most extensive government effort in the nation, depends on employees to make recommendations on how to improve service delivery and to identify areas that are repetitive and inefficient. A team of employees from both Frankfort offices and field offices around the state are participating in the cabinet's reengineering process.

EMPOWER Kentucky is not a plan to layoff state employees or to eliminate services. Instead, it is a systematic look at the areas that require a great amount of resources. The end result will provide workers with the technology and training needed to do their jobs and deliver services effectively. For the Natural Resources and Environmental Protection Cabinet, that may mean field inspectors will have laptop computers or pen-based notepads to take with them on inspections. This will give the inspectors the capability to carry with them the permit and file information on the permittee.

The next step for the brown paper maps that represent work "as is," is to examine opportunities for improvement and determine how they can be implemented. For this, the mapping teams will work with a team of consultants, commissioners and division directors in some fairly technical processes including cost analysis. This first wave of mapping processes "as is" and "to be" will be completed in December.



Division for Air Quality photo

Division for Air Quality regional office employees had the opportunity to review the brown paper mapping of the air permitting process. Each piece of paper represents a step in getting a division permit. From left are Miley Twyman, supervisor of the Florence Regional Office; Tom Seibert, supervisor of the Owensboro Regional Office; and Beth Leistensnider, an inspector with the Frankfort Regional Office.



# Five worst tire piles are cleaned up



**Grass is growing once again at the Windy Ridge tire dump site in Campbell County. Approximately 300,000 waste**

**tires were removed from the site this summer at a cost of \$198,270.**

Division of Waste Management photos

Since March, the Natural Resources and Environmental Protection Cabinet has awarded contracts totalling nearly \$1.3 million to clean up five of the worst abandoned waste tire stockpiles in Kentucky. These sites are Windy Ridge (Campbell County), Lawmac (Simpson County), Encon (Logan County), Hoover Lindsey (Barren County) and Tire Power (Franklin County). Of the five, four removals have been completed. A contract has been awarded to Waco Tire for \$239,000 to clean up a sixth site — Gilbert Ridge in Campbell County.

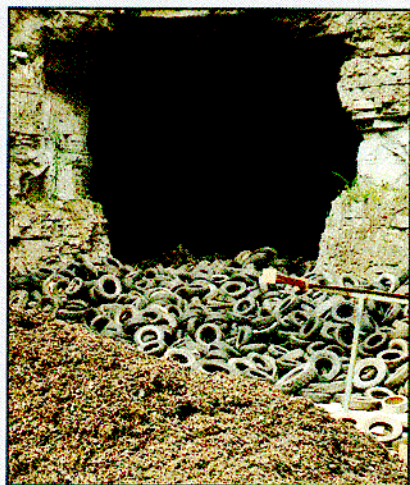
While the cabinet continues to identify and prioritize sites, funds for cleanup are becoming limited. Money for the cleanups has come from the Waste Tire Trust Fund, which receives a \$1 fee from tire retailers for each new tire sold. When the fund was established by the legislature in 1990, it was expected to generate \$3.6 million annually. But due to allowable exemptions for many retailers, the fund generates only about \$600,000 each year.

Cleaning up existing waste tire stockpiles does not prevent the accumulation of more. To address this problem, the cabinet has expanded the waste tire initiative to focus on the market potential for waste tires. A consultant has been hired to assist in the development of

markets to use tire-derived fuel (TDF) as a supplemental fuel source. Because of its high Btu value, TDF is used by several industries and utilities around the country. Most of the waste tires removed from the sites in Kentucky were taken to Illinois for processing into TDF chips for fuel. A portion of the tires went to Indiana to be used in landfill construction.

The cabinet also is developing regulations for financial assurance and management standards for waste tires. The regulations will establish tracking and reporting requirements and other standards to enforce statutory exemption provisions.

The regulations should be filed with the Legislative Research Commission in December.



**Whole tires spill out of a cave toward a pile of shredded waste tires in Franklin County. At right, tires at the Gilbert Ridge site in Campbell County await cleanup.**





# Conservation Division turns 50

The Division of Conservation was created by the 1946 General Assembly as a division of the Department for Natural Resources and Environmental Protection, now the Natural Resources and Environmental Protection Cabinet. The division was originally established as the Division of Soil and Water Resources. In 1966, the General Assembly changed the name to the Division of Soil and Water Conservation, and in 1972 the name was changed to the Division of Conservation.

The mission of the Division of Conservation is to assist Kentucky's 121 local conservation districts in the development and implementation of sound soil and water conservation programs; to manage, enhance, and promote the wise use of the commonwealth's natural resources; to responsively administer the conservation programs of the Division of Conservation; and to ensure, through conservation districts, the availability of technical and financial assistance to the landowners and landusers of Kentucky.

In carrying out its mission, the Division of Conservation administers

several programs that provide financial, administrative, educational, promotional and technical assistance to the conservation districts. Three programs provide

conservation program across Kentucky. Technical services are provided by the division's soil scientist staff through mapping efforts. This helps accelerate the Cooperative Soil

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***The division assists 121 local conservation districts in developing and implementing sound soil and water conservation programs. . .***

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financial assistance to landowners — the Direct Aid Fund to Conservation Districts, the Equipment Revolving Fund Loan Program for Conservation Equipment and the Kentucky Soil Erosion and Water Quality Cost Share Fund. Other programs the division administers are the Agriculture District Law (1982), the Agriculture Water Quality Act (1994) and the Watershed Conservancy Districts Law.

To help the Division of Conservation carry out its mission, field services are provided by 11 field representatives. These staff members help conservation districts develop and implement a conser-

Survey Mapping Program in Kentucky.

The wise use and protection of Kentucky's bountiful natural resources is a challenge to every Kentuckian. Future generations depend upon our successful management of today's resources. The Division of Conservation — with federal and other state and local agencies working in cooperation with Kentucky's 121 local conservation districts — hopes to meet the challenge of the future with effective programs and with continuous planning to address Kentucky's land-use needs.

## Conservation awards made at conference

Over the past year, the conservation program in Kentucky has undergone tremendous change and has seen considerable progress made in funding to local conservation districts.

Updates were given on those changes at the 53rd Kentucky Association of Conservation Districts Annual Convention this summer in Lexington. Several programs were discussed such as Direct Aid to Conservation Districts, the Soil Erosion and Water Quality Cost Share Program, and the role of the conservation districts in the Agriculture Water Quality Act. More than 500 conservation district members attended the informative conference.

During the convention many people were recognized for their contributions to Kentucky's conservation program over the past year.

The 1996 Distinguished Service Awards went to state Sen. Mike Moloney,

Sen. Joey Pendleton and Rep. Harry Moberly for their leadership and direction to ensure increased funding to Kentucky's Conservation District Program.

The 1996 Conservation Person of the Year Award went to state Rep. Rocky Adkins of Sandy Hook for his years of service and dedication to the conservation district movement.

The Kentucky Association of Conservation Districts recognizes farmers who are taking the initiative to implement sound, innovative and cost-effective conservation techniques and Best Management Practices. The 1996 state winner of the Outstanding Conservation Cooperator Award is Robert E. Elliott of Graves County. The state runner-up is Bertram Willett of McCracken County.

The 1996 Conservation Communication Award was presented to Sharon Burton of Columbia, *Farmer's Pride* publisher, for the publication's efforts in

promoting conservation districts programs and conservation and other natural resources issues.

This year's Outstanding Conservation Environmental Education Award went to the Bath County Conservation District.

The Secondary Education Conservation Teacher of the Year is Stephanie Lynn Wyatt of Calloway County. Wyatt has been a science teacher at Calloway County High School in Murray for 12 years and is an advisor of the First National Science Honor Society of Secondary Schools in Kentucky.

The Elementary School Conservation Teacher of the Year is Gwendolyn Lee Lawson, a fifth- and sixth-grade science teacher at the Hustonville Elementary School in Lincoln County. Wyatt and Lawson were also selected as the Southeast Regional NACD winner in their categories and will be judged at the

*(Continued on page 4)*



# Storm recovery packet provides seedlings

The spring and summer months of 1996 will be remembered for the destructive wind storms and heavy rains that passed through Kentucky.

Few residents in Central Kentucky will soon forget the tornado that passed through several counties in the early evening of May 28. Those who suffered damage from the storm are still rebuilding and repairing.

The National Weather Service tracked the storm from Harrison County in Indiana through Jefferson, Bullitt, and Spencer counties in Kentucky. The tornado dispersed at the Taylorsville Lake Dam area, yet a new tornado appeared in the Fox Creek area of Anderson County. This tornado appears to have followed the Salt River as it moved through the region. The storm crossed the Bluegrass Parkway and

blew through Woodford and Fayette counties and into Jessamine County, where it finally dissipated.

The Jefferson County Memorial Forest, near the Bullitt/Jefferson County line, and the subdivisions adjacent to the forest appear to have received the most damage.

The Division of Forestry provided field personnel and equipment for the immediate cleanup work of downed trees in the tornado's path and also assistance to landowners who suffered damage to their woodlots. The division's foresters from the Central District in Elizabethtown provided the Federal Emergency Management Agency and Kentucky Disaster and Emergency Services with a list of timber operators that landowners could contact regarding the removal of damaged and

wind-blown timber.

The Division of Forestry is also providing certificates for **free** tree seedlings to both homeowners and landowners in the tornado-damaged areas. The specially prepared storm recovery packet will contain 25 seedlings, a mix of ash, pine, and oak seedlings from the division's nurseries. It will be available for the late fall planting season or next spring's planting season.

Any individual affected by the May 28 storm who did not receive a certificate for the storm recovery packet of seedlings or who would like technical assistance for tree planting or tree care can write to the Kentucky Division of Forestry, P.O. Box 663, Elizabethtown, KY 42702 or call 502/766-5010.

## Pieratt designs new logo for Division of Forestry

The Division of Forestry has a new logo that the public will begin seeing this fall. Producing a new logo was first recommended by a visibility working group formed to head the division's new visibility initiative. Requests were made to all division personnel to submit potential logo designs.

After the review of 25 submitted logo designs, the entry designed by Linda Pieratt was selected. Pieratt is the office coordinator for the division's Bluegrass District office in Stamping Ground. She received a plaque showcasing the new logo for producing the winning design.

The new logo depicts the yellow-poplar (or tulip poplar) leaf, Kentucky's state tree since 1994, and two white oak leaves. White oak is a major component of Kentucky's forests, providing a wealth of benefits to all citizens.

The new logo will be displayed on all forestry vehicles, printed materials, division stationery, and other division items. As forest management and forestry issues become



of even more concern to Kentuckians, this new logo will be a visual sign of the state's dedication to protect and enhance the commonwealth's forest resources.

## Conservation awards made at conference

*(Continued from page 3)*  
national level.

The Goodyear National Association of Conservation Districts Conservation Awards Program emphasizes the concepts of planning and evaluation of district services. Each year, two Goodyear state winners are selected. The eastern winner is Scott County Conservation District, and the western winner is Graves County Conservation District.

Once a district receives the Goodyear Award, it is ineligible to receive the award

again for five years. However, during this time, if a district continues carrying out an outstanding program and enters the contest, it is eligible to receive an Honor Award.

Honor Awards were given to Bath, Clark, Daviess, Franklin, Hancock, Hardin, Letcher, Nelson, Pendleton and Todd counties conservation districts.

Also nine Goodyear Area Winners were recognized: Area 1 - Marshall County, Area 2 - Hopkins County, Area 3 - Allen County, Area 4 - Spencer County,

Area 5 - Harrison County, Area 6 - Madison County, Area 7 - Taylor County, Area 8 - Fleming County, and Area 9 - Owsley County.

Other awards presented were Forestry -- Marion County Conservation District; Soil Stewardship -- Pendleton County Conservation District; Junior Board -- Jackson County Conservation District Junior Board; Natural Resources Scholarship -- Robert B. York of Boyle County; and George Cralton Memorial Scholarship -- Scott Conin of Oldham County.



# Forums re-emphasize stop dumping message

More than 300 Kentuckians had their say about the problems illegal dumping causes to the public health and economic well-being of their counties during 15 community forums held at area development district offices during May and June.

The forums were sponsored by the Natural Resources and Environmental Protection Cabinet as part of state government's intensified Campaign to Stop Illegal Dumping in Kentucky.

"While there was a variety of topics discussed at each forum, the same message was voiced loud and clear at each meeting," said Joy Morgan, who is coordinating the campaign for the cabinet. "People are tired of seeing trash illegally dumped along Kentucky's roadways and waterways. They are upset that millions of dollars in tax money are being spent on cleaning up dumps instead of going to other community projects. These Kentuckians want action, and state government is looking for support to stop illegal dumping."

At all 15 forums, participants called for uniform enforcement from local officials. They recommended that county attorneys and district judges take illegal dumping cases seriously, levy appropriate penalties, and support local solid waste coordinators and enforcement officers.

Many participants suggested that dumpers be required to clean up dumps and do community service, sign up for



Design by Eva Smith-Carroll

**Bumper stickers with this message are being distributed by solid waste coordinators and county judges/executive in all 120 counties in an effort to make Kentuckians more aware of the price everyone pays for illegal dumping.**

collection service and pay court costs as part of stiffer penalties. It was also suggested that dump sites and penalties for dumping be publicized in local papers.

A statewide Trash Prevention Week was suggested to draw attention to illegal dumping. Another recommendation was to have businesses and industry, as well as landfills and garbage hauling companies, provide money to fund environmental education programs in schools. Adults could receive information through their businesses — home builders and remodelers, realtors, property valuation administrators — civic groups or extension service about proper trash disposal.

Participants encouraged state and local governments use newspapers and radio and TV stations to tell Kentuckians about the campaign. Suggestions included public service announcements to radio and TV stations and information to all media on various environmental issues such as water pollution, air quality problems and proper solid waste disposal.

The need for mandatory trash collection in all counties and a method to collect the garbage bills were mentioned at all 15 forums. Other ideas to curb illegal dumping, which participants felt would need to be addressed by the General Assembly, included a container deposit; a statute that deals specifically with illegal dumping; new legislation dealing with waste tires; mandatory enforcement for illegal dumpers like the mandatory enforcement of drunk driving violations; and legislation that would require dumps to be cleaned on property before the land could be sold or transferred.

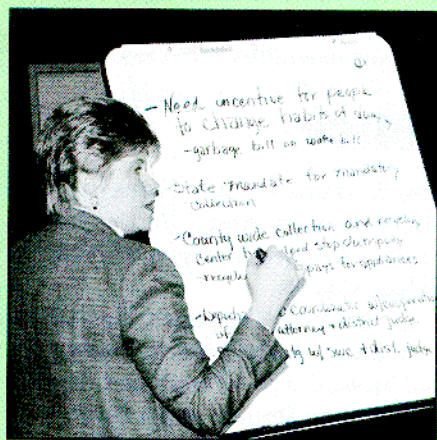
Participants also recommended that

funding be allocated to the Natural Resources and Environmental Protection Cabinet to provide grants and loans to counties dealing with illegal dumps, expanding recycling programs or establishing drop-off centers for large item collection.

Several recommendations were made at the forums for activities in the cabinet. Some suggested that more cabinet law enforcement officers were needed to enforce dumping laws. Some participants said air quality regulations need to be changed so it would be illegal for Kentuckians to have "burn barrels." Participants at several forums asked that the cabinet publicize used motor oil collection centers and encourage the Transportation Cabinet to have such collection centers at its county road barns. It was mentioned at several forums that the cabinet needs to take the lead on a statewide cleanup day, which would encourage private businesses, local officials, civic and environmental groups and citizens to participate.

Cabinet staff will review all the recommendations from the forums and work with local governments and the private sector to begin the implementation process.

"This initiative is a long-term approach to dealing with illegal dumping," said Cabinet Secretary James E. Bickford. "The recommendations will not be implemented overnight. However, the cabinet is committed to this initiative and wants to ensure that citizens continue to hear the message 'Stop Illegal Dumping in Kentucky.' We feel this approach will let all citizens enjoy a cleaner Kentucky."



**Joy Morgan, coordinator of the Campaign to Stop Illegal Dumping, takes notes during the forum in the Barren River Area Development District.**  
Division of Waste Management photo



# Land News



## Two mine sites are nominated for national awards

Two locations in Kentucky have been nominated for the 1996 Kenes C. Bowling National Mine Reclamation Award.

Peabody Coal Company's Gibraltar Mine in Muhlenberg County was nominated in the coal category for reclamation and direct seeding of three slurry disposal ponds. The

permit site has been developed into a wetland/wildlife area.

Successful reclamation of the ponds was accomplished by using experimental practices under the guidance of Peabody, the Cooperative Wildlife Research Laboratory of Southern Illinois University at Carbondale and the Kentucky Department for Surface Mining Reclamation and Enforcement.

The 93-acre McGary Mine near Bardwell in Carlisle County was nominated in the

noncoal minerals category for the reclamation done by Kentucky-Tennessee Clay Co. The company reclaims areas of the site as they are mined for ball clay. The site has been reclaimed more environmentally and wildlife friendly in the final impoundment and revegetated areas.

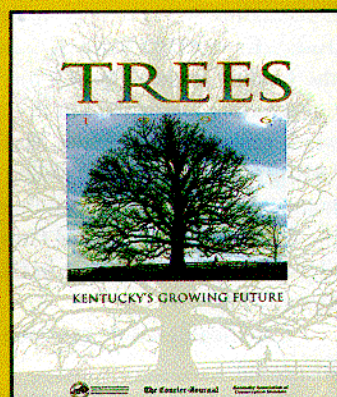
The winners of the reclamation awards will be announced later this month.

## Poster/essay contest subject is *Trees*

*Trees: Kentucky's Growing Future* is the subject of the 1996 Conservation Essay and the Jim Claypool Conservation Poster Contest sponsored by *The Courier-Journal*, Kentucky Farm Bureau and the Kentucky Association of Conservation Districts, in cooperation with many state and federal agencies.

The essay contest is designed for students through grade 12, and the poster contest is for students through grade 6.

Prizes include U.S. Savings Bonds, plaques and certificates. Prizes will be awarded in every participating county. For more information, contact your local conservation district office.



## Forestry Division dedicates new Morehead office

On July 25, the Kentucky Division of Forestry officially dedicated its new Northeastern District Office at Rodburn Hollow in Morehead during an open house. The event was attended by division personnel, U.S. Forest Service personnel, local officials, and interested citizens.

During the ceremony, Daniel Boone National Forest Supervisor Ben Worthington presented the deed of the Rodburn Hollow Complex to Division of Forestry Director Mark Matuszewski. The Rodburn Hollow Complex and another location known as Morgan Fork Depot, also near Morehead, were acquired from the U.S. Forest Service by the Division of Forestry in exchange for the 830-acre

Olympia State Forest in Bath County.

Rodburn Hollow was first established as a 200-man Civilian Conservation Corps (CCC) camp in 1936. The original buildings were removed by 1943; however, the concrete slabs are still visible today. The U.S. Forest

Service developed an administrative complex in 1963 as part of what was then known as the Cumberland National Forest. The Forest Service staff remained at this location until the early 1990s, when they moved to new facilities at Cave Run Lake.

The Division of Forestry

has long-range plans to add a multipurpose meeting and education center to the Rodburn Complex for training and educational programs. Plans also include a small forest fire museum with Smokey Bear memorabilia and historical information on forest fires in Kentucky.



Division of Forestry photo

**The Rodburn Hollow Complex is the Northeastern District Office of the Division of Forestry.**



# Awards given for waste management work

The Division of Waste Management held its biannual Solid Waste Planning Workshop on July 10-11 at Cumberland Falls State Resort Park. More than 100 people from 60 counties received training and networked with their peers.

A highlight of the workshop was the presentation of awards by Natural Resources and Environmental Protection Cabinet Secretary James E. Bickford. Plaques were presented to **Woodford County Fiscal Court and Cy Brown** for Outstanding Achievement in Recycling; **Judge/Executive Onzie Sizemore and the Leslie County Fiscal Court** for Outstanding Leadership in Solid Waste Management Issues; **Mike McCombs**, LaRue County, for Outstanding Performance as Solid Waste Coordinator; and the **Barren County Fiscal Court** for Outstanding Achievement in Cleaning Up Open Dumps.

Certificates were presented to the following:

*Rookie Solid Waste Coordinator of the Year:* **Denny Harris** (Logan Co.); **Bill Neal** (Washington Co.); **Shawna LeMaster** (Elliot Co.); **Mike Smith** (Carroll Co.); and **Steve Schwartz** (Whitley Co.)

*Collect That Garbage* (increase from 53 percent in 1994 to 90 percent in 1995): **Pendleton County**

*Public Education on a Shoestring* (providing quality solid waste management education to schools): **Debbie Lessenberry**, Metcalfe Co.

*Creative Enforcement* (imposing maximum penalty and requiring 100 hours of community service at \$5/hr. instead of paying penalty): **Pike County**

*Tireless Efforts* (innovative program for community tire collection): **Morgan County Fiscal Court**

*Local Government Partnership* (cooperative efforts between city and county programs): **Calloway County** and the **City of Murray**

*Resourceful Recycling* (development and maintenance of recycling program): **Lakis Mavinidis**, Harlan Co.

*Serious Enforcement* (enforcement of proper solid waste practices): **John Hawkins** and the **Christian County Fiscal Court**

*Public/Private Partnership* (provision of free blue bags to citizens for recycling): **Allen County** and **Dollar General Store**

*Comeback Kid* (car accident didn't keep him down): **Cy Brown**, Woodford Co.

*Creative Newspaper Ad* (ad details harm of illegal dumping): **Jim Thacker**, Estill Co.

*Partners in Education* (solid waste educational programs presented to students and citizens): **Robertson County Fiscal Court** and the **Robertson County Extension Service**

*Compost Guru* (recognizing efforts to implement and maintain a top-notch compost program): **Bill Hack**, Hart Co.

*County Police* (establishment of County Police Department; duties include issuing citations for solid waste violations): **McLean County Fiscal Court**

*Writer's Guild* (writing and illustrating a children's story to promote environmental awareness): **Geraldine Winchester**, McCreary Co.

*Household Hazardous Waste Collection Program* (recognizing efforts to establish and operate a household hazardous waste collection program): **Jefferson County**

*Neighborhood Watch* (establishing neighborhood watch to catch illegal dumpers): **Lon May**, Floyd Co.

*Equal Opportunity Enforcer* (outstanding efforts as enforcement officer and commitment

to equally enforce the laws): **Dewey Brock**, Bell Co.

*Waste Reduction* (52 percent reduction from 1993 to 1995): **Henderson County**



**Cy Brown of Woodford County, left, accepts the award for Outstanding Achievement in Recycling from Secretary Bickford.**

## Kentucky receives federal OK for corrective action program

The Natural Resources and Environmental Protection Cabinet has received final authorization from the U.S. Environmental Protection Agency (EPA) to implement the corrective action (cleanup) portions of the federal hazardous waste management law, commonly known as RCRA or the Resource Conservation Recovery Act. With EPA approval, the cabinet has administered the major parts of Kentucky's hazardous waste management program since the mid-1980s.

The new authorization is for corrective action or cleanup requirements at hazardous waste treatment, storage and disposal facilities for releases of contaminants across the entire property regardless of when wastes were managed at the facilities. This authorization means that Kentucky's regulations are equivalent to the federal regulations and that the cabinet will have the lead responsibility for the program with EPA acting only in an oversight/technical assistance role. Until now, the cabinet has been co-reviewing corrective action submittals with EPA.

The corrective action process consists of four main steps: assessment, investiga-

tion, remedy selection and remedy implementation. The assessment includes gathering a history of the facility and its operations with descriptions, photographs and maps.

Sampling and other field work are the focus of the investigative phase. This information is used to support the cleanup options that are proposed in the remedy selection phase. The public is then notified of the proposed cleanup options and provided an opportunity to comment. All comments are considered in making a final decision prior to implementation of the remedy.

As part of the authorization, the cabinet's Division of Waste Management will receive additional grant funding from EPA to administer the corrective action program. Also, the division has developed a publication explaining the program titled "Kentucky's Corrective Action Program." The publication is available by writing to the Division of Waste Management, Hazardous Waste Branch, 14 Reilly Rd., Frankfort, KY 40601, or by calling Dale Burton at 502/564-6716.



# Think globally...

## Kentucky teachers share environmental education with Russians

A group of teachers from southern Russia and the southern U.S.A. got together in Russia this past summer to examine ecological education techniques and materials. Sixteen teachers from Alabama, Georgia, Mississippi, Tennessee and Kentucky attended. The teachers from Kentucky, Jan Fowler, Adairville School; Lynne Givens, Green County High School; Terri Hjetland, Calloway County Middle School, and Judy Pettet, Munfordville Elementary, were sponsored on the trip by Western Kentucky University's Center for Mathematics, Science and Environmental Education and Murray State University's Center for Environmental Education. The Division of Water's Water Watch Program Coordinator, Ken Cooke, and Joan Martin of the WKU Center were also part of the group.

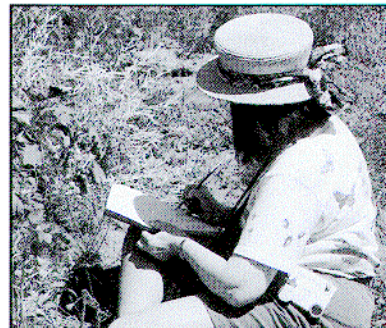
The summer program in Russia was the culmination of a two-year "River-to-River" project. Goals of the project were to further global understanding of the

interconnectedness of the environment through exchange of environmental information by students and teachers.

During the summer trip to Russia, teachers from both countries evaluated a variety of educational strategies. The group traveled from Moscow to Ust Donesk and spent time on the Don River, even working while cruising the river. They also observed and shared many aspects of the local culture, from country choir to chamber orchestra.

The group observed the recent Russian presidential election. In fact, more than 3,000 people voted in the poll located at the school where the group was holding its workshop.

The program was sponsored by the Citizens' Exchange Council International Partners and funded by the Bureau of Educational and Cultural Affairs of the United States Information Agency. Its objectives were to train teachers in a common approach to environmental



**Judy Pettet of Munfordville Elementary sketches a plant and an insect she observed in a dry, sunny habitat.**

education; start exchange of environmental and cultural information between schools in Russia and America; and serve as a training program for the teachers involved in the School Linkages Student Exchange.

Cooke took along his laptop computer and camcorder and sent back information via the Internet's World Wide Web as the group traveled from place to place. Visit this address to view more information about these activities: <http://www.state.ky.us/agencies/nrepc/water/Eco/intro.htm>.



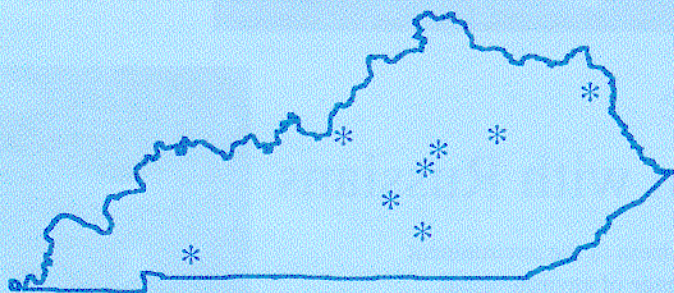
**Jan Fowler of Adairville School, right, joins Russian and American teachers in a discussion about water testing kits brought by Division of Water's Water Watch Program Coordinator Ken Cooke, left.**



**Lynn Givens of Green County High School, right, reads instructions for Russian teachers explaining the procedure for testing water samples taken from the Don River.**

Photos by Joan Martin, Center for Mathematics, Science and Environmental Education, Western Kentucky University





## Students from Kentucky schools by organizing public forums

In April 1995, Kentucky high schools were notified of a unique opportunity to participate in the Global Environmental Issues Project. The project was designed for high school science and social studies classes in localizing global issues. The goal was to have the classes research and organize a "public talk" session held in their community to increase public awareness of Kentucky's connection to global environmental issues.

Thirty-two Kentucky high schools applied to be a part of this project. Funding was provided for two teachers and two students from each school to attend the 1995 Governor's Conference on the Environment. Seventeen schools were represented at the conference, where they received training on how to conduct a public forum and attended many of the conference sessions. This training was conducted by Mike Score and Ron Hustedde of the University of Kentucky Cooperative Extension Service. They are public issues trainers who teach people to deal with

controversial issues in a healthy way.

Of the 17 schools that attended the conference and received the training, eight schools actually conducted a public forum. They are Bath County High School, Casey County High School, Christian County High School, Boyd County High School, Henry Clay High School (Fayette County), Jessamine County High School, Southwestern Pulaski County High School and Valley High School (Jefferson County). Although the program was designed for high school students, Simpsonville Elementary School in Shelby County received special permission to participate. The inclement weather of winter 1995 made it impossible for some schools to complete their projects.

The projects reported by schools dealt mainly with solid waste and water issues. Here are a few of the schools' activities.

### **Bath County High School**

Students at Bath County High School became concerned when trees along downtown Owingsville streets were cut down. Student leaders Bruce Manley and Lisa Balmer invited the mayor of Owingsville to a public meeting to discuss why the city cut down the trees. At the meeting, the mayor explained that the trees were removed because their roots were damaging sewer lines.

During the course of the public discussion, the mayor agreed to replace the trees with planters. The high school administrators and students volunteered to provide the plants and to care for the plants through the school horticulture program.

As a result of exploring this community problem, another area of the city has been listed as a possible area for tree plantings through an urban forestry program.

### **Casey County High School**

Beginning a community recycling program was the agenda for students at Casey County High School. Under the leadership of students Kelly



**A Christian County High School student conducts a water quality demonstration during the public forum.**



## Schools explore environmental issues in their communities as part of Global Environmental Issues Project

Lynn, David Terwilliger, Matt Hardin, Jenny Woodcock and Michelle Sapp, a public forum was held to discuss the issue. One result was the creation of a task force to make recommendations to the city council and fiscal court regarding a recycling program.

### **Christian County High School**

Students at Christian County High School were interested in learning more about the quality of water in their county. Christian Rutledge and Miranda Guillon led a group of students in sampling waterways in the county. The students reported their results at a public meeting and discussed interpretation of the results. They also conducted demonstrations on degrading water quality.

From this experience, the students learned the nitrate and pH levels in several local surface water sources. They also learned more about the importance of a river ecosystem.

### **Boyd County High School**

Recycling was the topic chosen by Boyd County High School students. They held a public forum to discuss the local recycling program with county officials. The students generated a great deal of positive feedback about the recycling program and county officials learned about the amount of interest the people of Boyd County have in supporting this program.

According to student leaders Catherine Vannatter and Tracey Golden, the students planned to write follow-up letters to the officials regarding this issue.

### **Jessamine County High School**

Students at Jessamine County High School explored the topic of groundwater pollution at their public meeting. Student leaders Paul Swain, Jessica Upton and Kavika King reported that students and attendees learned a lot about groundwater pollution and the significance it has on

their daily lives.

The students also gained experience in working with the media and community leaders regarding environmental issues.

### **Southwestern Pulaski County High School**

Sloans Valley Landfill has sparked controversy in Pulaski County for years, so it seemed a good topic for students at Southwestern Pulaski County High School to explore. This public meeting was a valuable educational experience to all who attended, according to student leaders Emily Parkey and Julia Noran.

The Global Environmental Issues Project was sponsored by the Kentucky Natural Resources and Environmental Protection Cabinet and the Kentucky Department of Education. Funding was provided by the Kentucky Environmental Education Council and the Virginia Institute for Marine Science.

Gwen Holt of the Resource Conservation and Local Planning and Assistance Branch in the Kentucky Division of Waste Management and former branch employee Vicki Pettus coordinated this project with the assistance of Jane Wilson, director of the Kentucky Environmental Education Council. For additional information about the project, contact Holt at 502/564-6716.



Students lead the discussion at the Jessamine County High School public forum.



# Students have fun learning about energy

"Working in a coal mine — (ugh) — Hard Hat! . . . Fall-ing wa-ter—Hydro-power-Hydropower . . . Blup-Blup-Petroleum . . . Sunshine Energy, Yes!"

These are but a few of the *Energy Chants* you might hear if you attend a KyNEED workshop. These workshops are noted for high energy and total audience participation.

The KyNEED Project is an affiliate of the National Energy Education Development Project (NEED), a national network of students, educators, and community, industry and government leaders who can make effective energy decisions. The KyNEED Project was incorporated in August 1995 as a not-for-profit organization dedicated to the development of a sound energy education program and student leadership skills across the commonwealth.

KyNEED empowers students to become actively involved in teaching themselves and others about energy issues through a comprehensive, non-biased program focusing on the science, the sources and the uses of energy as well as the issues surrounding it. Workshops are held to introduce teachers and students to a few of the many curriculum materials available through NEED.

The KyNEED Project encourages students to become leaders in their school and community by sharing the information they have learned. Students in the project often make presentations to students at other schools, civic groups and the general public in shopping malls.

Each April, KyNEED students are



Students try their hands at a game of *Energy Sleuth* at a workshop held last spring in Hazard. The KyNEED event was sponsored by Kentucky River Coal Corp.

KyNeed photo

encouraged to submit a scrapbook documenting their energy and environmental activities. These scrapbooks are evaluated, and in May, participants are invited to attend the KyNEED awards ceremony in Frankfort. State-level winners are then selected to represent KyNEED at the National NEED Youth Awards in Washington, D.C., in June.

This year, Kentucky was represented by students from three Kentucky schools

— Mayfield Elementary in Richmond, Hazelwood Elementary in Louisville and Calloway County High School in Murray.

The KyNEED Project is funded in part by the Kentucky Division of Energy and the U.S. Department of Energy. Funding for workshops is solicited at the local level from community and industry leaders.

If you would like more information about the KyNEED Project or about how to sponsor a workshop in your area, contact the KyNEED Coordinator, Karen Reagor at 606/578-0312 or write to her at P.O. Box 176055, Covington, KY 41017-6055.



Students and chaperones from Mayfield Elementary School in Richmond (Madison County) meet U.S. Sen. Wendall Ford at the NEED convention this summer in Washington, D.C.

Photo by The Photographers



# Energy efficiency

## New laws will push state and local government efforts

Three significant bills that will give a major push to energy efficiency efforts by state and local government officials were enacted into law by the 1996 General Assembly.

**House Bill 264** — establishes the basis for an *Energy Efficiency Program for State Government Buildings*. Four key provisions are addressed:

- Low-cost/no-cost measures
- Higher cost measures for building improvements
- Lease property
- New construction

The new law also authorizes energy performance contracts through private sector financing and/or other means such as loans. (The legislation does not address funding necessary to manage the program.)

It also directs the Division of Energy in the Natural Resources and Environmental Protection Cabinet to provide technical assistance to the Finance Cabinet in the implementation of the program.

House Bill 264 was sponsored by Rep. Steve Riggs; co-sponsors were Reps. Jim Wayne, Mike Bowling, Jim Callahan, Larry Clark, Ramsey Morris and Greg Stumbo.

**Senate Bill 157** — establishes an

*Energy Efficiency Program for Local Public Agency Buildings*. The law has two major features:

- To authorize guaranteed energy savings contracts through private sector financing.
- To authorize lease-purchase agreements for purchase and installation of energy efficiency measures.

Senate Bill 157 was sponsored by Sen. Kim Nelson.

**House Bill 655** — authorizes units of local government to *Issue Revenue Bonds for Energy Conservation Improvements for Buildings*. The major feature provides for bonds to be issued in accordance with the provisions of KRS 58.010 to 58.140.

The bill has four other conditions:

- The applicant shall have prior approval of the Commissioner of Education or the state Department of Education or on behalf of the commissioner except if the principal amount is less than \$100,000.
- The applicant shall have prior approval of the local debt officer except if the amount is less than \$500,000.
- The Department of Education shall promulgate administrative regulations by Sept. 1, 1996, to establish procedures to be used by school districts for conducting and approving energy audits and cost-benefit analyses for energy conservation projects.

- The Department of Local Government shall promulgate administrative regulations by Sept. 1, 1996, pursuant to established procedures to be used by cities, counties, urban-county governments, charter county governments and special districts for conducting energy audits and cost-benefits analyses for energy conservation projects.

House Bill 655 was sponsored by Rep. Adrian Arnold.

The new laws provide a process for identifying and completing cost-effective energy saving opportunities in buildings. They also provide avenues for funding these projects. The program will translate into millions of dollars in energy cost savings for state and local governments.

It is estimated that state government buildings can save more than 25 percent or \$10 million per year after the program is completed. Actual energy cost savings for schools based on the Division of Energy's grant program have been more than 25 percent over a 17-year period. Cost savings in this program have totaled about \$6 million annually. This represents only about 17 percent of the total buildings in use today.

## State plans major revision in air toxics program

The Division for Air Quality is planning a major revision of its air toxics program.

The air toxics program has been in existence for 10 years. During that period, fewer than 10 air permit applicants were required to add pollution control equipment under the program despite an extensive permit review process.

The anticipated changes should make the program equally or more effective in protecting human health and the environment while streamlining the permitting process.

The state agency is considering retention of 401 KAR (Kentucky Administrative Regulation) 63:020, the regulation that gives the division authority to control

toxics, and repeal of 401 KAR 63:021 and :022.

The division has adopted the U.S. Environmental Protection Agency (EPA) strategy for controlling a list of air toxics contained in the federal Clean Air Act Amendments of 1990.

The Division for Air Quality will determine if there are additional source categories or pollutants that are a concern in Kentucky but are not included in the federal program. If additions are needed, the state will initially propose to develop tiers of risk-based and technology-based standards.

Technology-based standards require sources to have certain air pollution control equipment in place. Risk-based

standards require air emissions to remain below a level to protect human health through various control mechanisms including pollution control equipment, changes in processes and changes in raw materials.

The Division for Air Quality is reviewing comments received this summer from an advisory panel that included members representing the cabinet, industry and public interests. The division held a series of public meetings around the state two years ago on the issue.

The division will announce its intent to change the toxic regulations before the end of the year.



# Carbon monoxide: a “senseless” killer

Carbon monoxide (CO) is a poisonous gas that can make a common household appliance more deadly than a loaded gun.

CO kills nearly 300 people in their homes each year in non-fire related incidents and sends thousands more to hospital emergency wards.

Carbon monoxide is called the “senseless” killer because it cannot be detected by the five senses — it is odorless, tasteless and colorless. Flu-like symptoms render many victims helpless before they even realize there is a problem.

Because this deadly gas is so hard to detect, the best defense is to take steps to prevent CO buildup in your home. Survey your home and answer these questions:

What are the potential sources of carbon monoxide in my home? Carbon monoxide is produced by burning any fuel. Some CO sources include water heaters and heating units — space heaters,

furnaces and fireplaces — and exhaust from vehicles.

Have fuel-burning appliances been installed properly and are they being operated according to manufacturer’s instructions?

Is there any sign the appliance is not working properly or is in disrepair? Contact a professional to check your heating unit. Sometimes there may not be outward signs a unit is not working properly. That’s why “annual checkups” for heating systems are an excellent way of protecting your family.

Are any heating or cooking units being used improperly? Never use a cooking range to heat the home. Use extreme caution when using an unvented space heater — read and follow the directions. Make sure there is a good air supply — crack a window or open a door to the rest of the house. Don’t use a grill or hibachi in the house.

Does your house have an attached

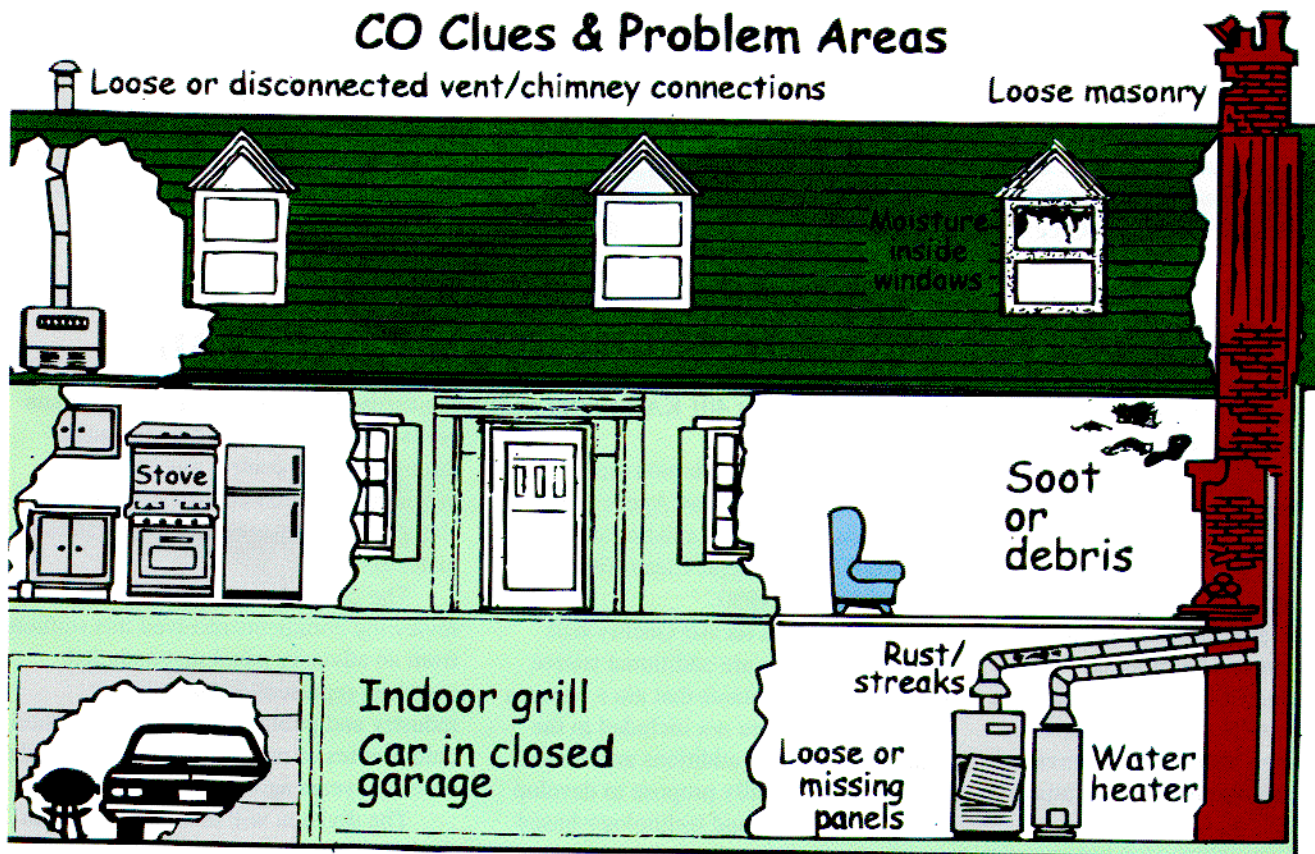
garage? Never warm up a vehicle in a closed garage. This can be a fatal mistake as evidenced by a tragic accident that claimed the lives of four Fayette County family members this year.

Is your home equipped with smoke detectors *and* a carbon monoxide monitor?

For more information, contact Monica Hale Kehrt at the Division for Air Quality, 803 Schenkel Lane, Frankfort, Ky. 40601, telephone, 502/573-3382. The division does not regulate indoor air quality but serves as an indoor air information clearinghouse.

Another source of information about carbon monoxide and other indoor air quality issues is the U.S. Environmental Protection Agency’s Indoor Air Home Page — <http://www.epa.gov/iaq/> — on the World Wide Web.

## CO Clues & Problem Areas



Source: U.S. Consumer Product Safety Commission

Note: Some clues you can't see are internal appliance malfunction, improper burner adjustment and chimney blockage or damage



# Air News



## MSU students enter Sunrayce 97

A team of students at Morehead State University have plans to follow the sun in 1997. They are developing, designing and building an efficient solar electric vehicle to enter in Sunrayce 97, a 1,200-mile cross-country race from Indianapolis, IN, to Colorado Springs, CO.

The solar energy race is sponsored by the U.S. Department of Energy, Educational Data Systems and General Motors. Morehead State University is the first Sunrayce Team in Kentucky to participate.

The MSU Solar Car Team has a variety of projects to raise funds to build the more than \$150,000 sun-powered vehicle. A goal of \$10,000 has been set for the *Adopt a Solar Cell* project, which allows interested individuals, businesses or organizations to adopt a solar cell for only \$30. The money will be used in the construction of the vehicle's solar panels.

All contributions to the solar cell fundraiser are tax deductible. To donate, send your check for \$30 for each cell adopted to the MSU Foundation, Inc., Attn: Bill Redwine, Sunrayce 97, Morehead, KY 40351.

The MSU Solar Car Team will make a special presentation on Sunrayce 97 to interested donors. Contact Rodney Stanley, advisor for the MSU Sunrayce 97, at 606/783-2427.

## Air monitoring begins in Kenova Industrial Cluster

The air toxics monitoring network for the Tri-State Geographic Initiative became fully operational in July in the tri-state area near Catlettsburg, KY, and Kenova, WV. The Tri-State Geographic Initiative is a multi-media environmental study of the area being carried out by state, federal and local environmental agencies in Kentucky, Ohio and West Virginia.

The monitoring will focus on gathering data about ambient air quality to determine if there are levels of chemicals that pose a threat to public health and the environment.

Kentucky and West Virginia environmental agencies have installed air monitors in seven locations in the area designated as the Kenova Industrial Cluster. The locations were selected to measure air emissions from specific sources in the cluster as well as from other emission

sources.

In addition to the stationary monitors, the environmental agencies will use a mobile laboratory and field inspectors to collect random samples.

Air toxics monitoring is expected to continue in the Kenova Industrial Cluster for approximately one year. Monitoring is expected to begin this fall in the South Point Cluster, followed by other locations in the Kentucky, West Virginia and Ohio Tri-State area. Data will be analyzed and summarized upon completion of the study.

## EPA office has new Atlanta address

The Air, Pesticides and Toxics Management Division of the U.S. Environmental Protection Agency's Region IV has moved to the new Atlanta Federal Center and is undergoing reorganization, according to Winston A. Smith, division director.

The new address is EPA, Region IV, Air, Pesticides and Toxics Management Division, 100 Alabama St., SW, Atlanta, GA 30303. The general telephone number is 404/562-9055.

## 1995 trade mission to India reaps interest in Kentucky

The Division for Air Quality recently participated in a project that matched visiting company officials from India with Kentucky businesses involved in environmental products and services.

The Indian group, representing 20 companies, was

headed by Hemant Sonawal, president of the Indo-American Chamber of Commerce.

The companies were mainly those with an interest in establishing joint ventures with manufacturers of environmental control equipment and compact wastewater treatment plants. They also were seeking advanced technologies in solid and hazardous waste management, liquid and gaseous effluent treatments and fly ash utilization.

The visit by the Indian delegation was prompted by a 1995 trade mission to India led by Lt. Gov. Stephen L. Henry in an effort to promote marketing of environmental technologies, products and services to Asian countries.

In preparation for the visit, profiles of the Indian companies were reviewed and matched with Kentucky businesses with expertise in environmental applications. Interested companies could then schedule appointments with members of the delegation.

Last year, Kentucky was awarded a \$150,000 grant from the U.S. Asian Environmental Partnership to encourage international public/private partnerships for transfer of U.S. environmental experience and technology to target Asian nations.

In addition to sponsoring the trade mission, the grant will help fund production of a directory of Kentucky companies offering environmental experience and technology and creation of a clearinghouse for assistance to businesses.



# Air permit deadline is Dec. 14

The Title V application deadline is rapidly approaching. All major sources of air pollution in Kentucky must submit permit applications to the state Division for Air Quality by Dec. 14, 1996.

Major sources are those with the potential or capacity to emit air pollutants at a rate in excess of 100 tons/year of non-hazardous air pollutants, 10 tons per year of a single hazardous air pollutant (HAP) or 25 tons per year of combined HAPs.

Industries that could be affected by Title V were notified in a Dec. 28, 1995, letter of the schedule for application submittal. Any major source that did not receive notification should contact Daniel Gray, manager of the Permit Review Branch at the Division for Air Quality in Frankfort.

The division conducted a series of Clean Air Permit Workshops across the state this summer to assist applicants in the Title V permitting process.

About 100 of the applications due in December are required to be comprehensive, containing all required information. The remaining applications only have to

contain certain limited information and are being referred to as "skeleton" applications. The skeleton applications must be supplemented with complete information one year prior to the permit issuance date of the source.

To avoid Title V requirements, some major sources with the potential to emit pollutants over the Title V "trigger" levels listed above may agree to a cap on their allowable emission rates and get a permit as a "conditional major" before the Dec. 14, 1996, deadline.

The division has estimated that more than 200 sources may be eligible for conditional major permits, but few had applied at press time. Sources that wish to take advantage of this option should submit an application immediately to ensure that it is processed before the Title V application deadline.

The Title V permit program was created under the federal 1990 Clean Air Act Amendments. The Division for Air Quality is authorized to operate the program in Kentucky.



Division for Air Quality photo

**Daniel Gray, right, manager of the Permit Review Branch, Division for Air Quality, answered additional questions for Chris Hendrix, Westlake Monomers, Houston, following a Title V permitting workshop held at Carter Caves State Resort Park.**

## 'Burners' may opt to educate others instead of paying fines

The Division for Air Quality has developed a new strategy to help educate the public about the impacts of open burning.

Over the past year and a half, several people found in violation of air quality rules governing outdoor fires have been given the option of placing a public notice in their local newspapers instead of paying all or a portion of a fine.

In the notice, the "open burner" announces his or her misstep and follows up with an educational message about

open burning. The open burning notice has appeared in 13 newspapers with a combined circulation of more than 81,000.

The individuals required to pay a fine or place a notice have been first-time violators who committed an extremely serious open burning offense; repeat violators; or those who have "burned for profit."

The newspaper ads are a tool used to reach and educate the general public about the division's outdoor burning rules through a medium that most people read every day, according to John Lyons, manager of the Enforcement Branch.

It is illegal under air quality regulations to burn these materials at any time: tires and other rubber products; wire; treated, painted or finished wood; plastics; garbage; heavy oils; asphalt materials; building materials, especially those containing asbestos; paint; and agricultural and household chemicals.

The Division for Air Quality regulates open burning because of the threat to human health and the environment. Seven to nine percent of burned materials ends up as air pollution, and some pollutants are highly toxic.

Violating state air quality regulations could result in a fine of up to \$25,000 per day.

The Division for Air Quality does allow certain types of outdoor fires: campfires; barbecues; small fires for warmth; burning of plant material from clearing your own property; and wood bonfires on festive occasions.

However, before starting a fire, you should be aware that other state regulations, including Division of Forestry rules and local ordinances, may also apply.



# Zebra mussel study charts their migration

The problems associated with zebra mussels are well documented. On Feb. 19, 1995, the Frankfort *State Journal* reported that 25 adult zebra mussels had been found on Frankfort Plant Board's water intake in Pool 4 of the Kentucky River. This alerted local officials to the potential problems these unwanted organisms generate.

In late August 1995, the Kentucky River Authority and the Water Quantity Section of the Division of Water undertook a study to determine the maximum extent of their spatial migration in the Kentucky River Basin. It was determined from plankton samples taken in the study that zebra mussel veligers (microscopic organisms) extended from Pools 1 through 6 of the Kentucky River, decreasing in density as distance from the Ohio River increased. Adult zebra mussels were also identified on riverside rocks in Pool 1 through Pool 4 of the Kentucky River.

Since June 1995, the Frankfort Plant Board has been injecting potassium permanganate at its intake. The injection

of potassium permanganate at the intake helps prevent settlement of zebra mussels on a site-specific basis.

The latest report of their upstream migration was from Lancaster Water Works. In March 1996, the municipality's water intake in Pool 8 of the Kentucky River was inspected. Divers found one 1.3 cm (0.5 inch) adult zebra mussel attached inside the stainless steel intake.

It has also been reported that adult zebra mussels have attached to a construction barge at Lock and Dam 11. It is questionable whether the mussels originated in this pool, but nevertheless they are contributing to upstream migration.

The purpose of this migration study was to determine the current spatial distribution of the zebra mussel in the Kentucky River Basin. This study updates the previous 1995 study and provides an early warning to municipal facilities and boaters to take additional precautions to protect their intakes and equipment.

In July 1996, zebra mussel veligers were detected in Kentucky River Pool 7



Kentucky River Authority photo

**Here is a close-up look at a zebra mussel found during the Kentucky River migration study.**

in a very low concentration. The remaining sampling sites (Pool 6, Pool 8 through 14 and Herrington Lake) gave negative results. It is very possible that sampling did not occur during the zebra mussel breeding cycles. The visual survey for adult zebra mussels observed adult zebra mussels in Pools 3 and 4. The results are summarized in the table below. For a copy of this report, contact the Kentucky River Authority, 401 Wapping St., Frankfort, KY 40601. The phone number is 502/564-2866.

Sampling Site	Summary of Zebra Mussel Sampling			
	Concentration of Veligers (/m3)		Visual Survey for Adult Zebra Mussels	
	August 1995	July 1996	August 1995	July 1996
Pool #1	22	*	Positive	*
<b>Pool #2</b>	<b>41</b>	<b>*</b>	<b>Positive</b>	<b>*</b>
Pool #3	31	*	Positive	Positive
<b>Pool #4</b>	<b>18</b>	<b>*</b>	<b>Positive</b>	<b>Positive</b>
Pool #5	4	*	Negative	Negative
<b>Pool #6</b>	<b>2</b>	<b>0</b>	<b>Negative</b>	<b>Negative</b>
Pool #7	0	1	Negative	Negative
<b>Pool #8</b>	<b>0</b>	<b>0</b>	<b>Negative</b>	<b>Negative</b>
Pool #9	0	0	Negative	Negative
<b>Pool #10</b>	<b>0</b>	<b>0</b>	<b>Negative</b>	<b>Negative</b>
Pool #11	0	0	Negative	Negative
<b>Pool #12</b>	<b>0</b>	<b>0</b>	<b>Negative</b>	<b>Negative</b>
Pool #13	0	0	Negative	Negative
<b>Pool #14</b>	<b>0</b>	<b>0</b>	<b>Negative</b>	<b>Negative</b>
Herrington Lake	0	0	Negative	Negative
*No sampling				





Calm waters of the Cumberland River offer canoeing and fishing along a shoreline of huge boulders.

Photo by Sherri Evans



White-water rafting is a favorite sport along the Cumberland River.

Photo by Morgan Jones

## Wild rivers offer more than beauty

*These “natural museums” offer history, wildlife refuge, solitude, recreation and . . .*

The mystique of the commonwealth's unexplored wilderness remains in the unspoiled natural beauty of Kentucky's wild rivers, thanks to the foresight and wisdom of the General Assembly when it passed the state's Wild Rivers Act in 1972.

The act protects portions of nine rivers along linear corridors that encompass all visible land on each side of the designated rivers up to a distance of 2,000 feet. Portions of these rivers of exceptional quality and aesthetic character have been designated as Kentucky Wild Rivers.

A 16.1-mile stretch of the Cumberland River is one of the those designations.

This portion of the river, between Summer Shoals and the backwaters of Lake Cumberland, winds below rugged mountain slopes rising more than 400 feet above the stream. It includes spectacular Cumberland Falls in Cumberland Falls State Resort Park, as well as Eagle Falls and Dog Slaughter Falls, two picturesque

waterfalls on tributary streams.

Special features of this portion of the river include sheer cliff walls and large boulders in and about the river channel.

Recreational opportunities include white-water canoeing, rafting, camping, hiking and fishing. The Cumberland River below the falls is unique in that its flow is sufficient to allow rafting and canoeing throughout the summer, even after most other rivers are too low.

This portion of the Cumberland River, like all others designated as Wild Rivers, was chosen for protection because of its exceptional quality and aesthetic character. The program preserves the unique, scenic, fish and wildlife, botanical, geological, cultural and recreational values of Kentucky's most pristine rivers.

Wild Rivers provide living examples of natural ecological processes for nature study and scientific research. They serve as natural museums, holding within them impressions of primitive life in rock strata,

rock shelters and caves, as well as historic structures from pioneer days. They also serve as refuge for wild plants and animals and havens for humans seeking solitude and tranquility.

Existing residential and agricultural land uses continue along these rivers, but developments that might impair the river's water quality or natural condition are regulated through a permit system. Some activities strictly prohibited within a wild river corridor are surface mining, clear cutting of timber, and construction of dams or other in-stream disturbances.

The Division of Water is responsible for administering the Wild Rivers Program. For more information, contact Morgan Jones at 502/564-3410 or write to him at Wild Rivers Program, Kentucky Division of Water, 14 Reilly Road, Frankfort, KY 40601.



# Water News



## Kentucky River Authority moves Frankfort office

The Kentucky River Authority has moved to the historic Vest-Lindsey House, 401 Wapping St., Frankfort, KY 40601. The phone number remains 502/564-2866.

The Vest-Lindsey House is still available for state meetings, weekdays between 8 a.m. and 4 p.m. Guided tours are available from 9 a.m. to 4 p.m. by calling Helen Evans at 502/564-6980.

## Grants can fund solutions for water quality problems

Do you have an idea for solving a water pollution problem in your community? The Kentucky Division of Water is looking for proposals that will help control nonpoint source pollution problems in specific locations.

Nonpoint sources of water pollution include stormwater runoff from agricultural land, logging sites, abandoned mine-lands, construction sites and urban areas, as well as from other land-use activities. Nonpoint source pollution can also be caused by improper residential on-site wastewater treatment systems and in-stream or sinkhole disturbances.

Proposed projects should promote the use of practices to manage and control this type of water pollution. Proposals should also include education, technical or financial assistance, training, technology transfer, watershed projects, and/or enforcement.

Funding, which can be used for up to 60 percent of a project's total costs, is provided by the U.S. Environmental Protection Agency through an upcoming Section 319(h) Nonpoint Source Implementation grant.

For more information, contact Kathleen O'Leary, Division of Water, Nonpoint Source Section at 502/564-3410 or write to her at 14 Reilly Road, Frankfort, KY 40601.

## Safe Drinking Water Act reauthorization contains changes

A State Revolving Fund for drinking water facilities was included in the reauthorization of the Safe Drinking Water Act enacted on Aug. 6.

The legislation requires the funds be used for projects that will help public water systems comply with federal requirements; otherwise, very little is known yet about how these funds may be administered. The U.S. Environmental

Protection Agency will publish guidance for this fund, but guidelines are not expected for several months.

The legislation contains a number of other significant changes and initiatives. *Land, Air & Water* will bring you discussion of these changes in future issues, as well as information about the State Revolving Fund, when more is known about them.

## Barcode system benefits certified operator programs

Since 1995, Kentucky has issued laminated wallet cards to all certified water and wastewater system operators in the state. These cards contain a barcoded number unique to the operator.

When an operator attends any state-sponsored training course for continuing education, these cards are scanned and the continuing education hours directly uploaded into a master operator database.

Any courses offered by outside entities that are approved by Kentucky's Water and Wastewater Certification Boards for renewal purposes are also entered into the training database. When an operator attends one of these courses, the continuing education hours can be credited to his or her certification number.

While the system is less than two years old, it has already proven beneficial in the administration of Kentucky's operator certification programs. The system has all but eliminated the clerical time necessary to file and document information in each operator's hard-copy record. It also

enables the Operator Certification Section staff to identify operator training at a glance without researching course rosters and operator files. The renewal application review process time has been reduced by one-half. This is significant when there are 5,700 renewals to process every two years.

Kentucky now provides training information to operators in a more timely fashion with the new database.

## Subcommittees set for watershed management approach

A 22-agency workgroup has been meeting since late March to discuss the concept of a watershed management approach in Kentucky (see *Land, Air & Water*, summer 1996). Along with a draft vision statement that includes mission, goals and objectives, a chapter of the final framework document has also identified subcommittees to deal with more detailed issues of implementation. The subcommittees are:

- Monitoring and Assessment;
- Public Participation;
- Data Management and Geographic Information System;
- Prioritization, Targeting, Planning, and Implementation, and
- Funding.

The first four subcommittees have met at least once during August and September. The Funding Subcommittee will meet early in 1997, when the framework of the approach is completed, to identify key areas for leveraging partner resources.



# Ag water quality plan gets fine tuning

In 1994, Kentucky lawmakers enacted the Agriculture Water Quality Act.

Through this progressive legislation, rural Kentucky will make changes to address agriculture concerns that can adversely affect water quality. This legislation has elevated the commonwealth as a model state for the development of an agriculture policy to protect the quality of its waters.

The Agriculture Water Quality Act established the Agriculture Water Quality Authority, interest group and agency representatives and farmers appointed to develop a state water quality plan for prevention of pollution that may result from agriculture and silviculture activities.

This past June 20, Authority members met at the Franklin County Cooperative Extension Office to present the official State Agriculture Water Quality Plan to representatives of the Division of Water. The Division of Water is required by the statute to review and approve the plan.

The Authority members also recognized the contributions of the Kentuckians who gave their time and knowledge to assist the Authority. During the ceremony, the Authority presented a copy of its first biennial report to Gov. Paul E. Patton and to the Legislative Research Commission as required by law.

The Division of Water reviewed the plan. The plan was returned to the Authority after the review for additional work in several areas. The Authority has addressed all these concerns and now is working with an editor to finalize the document.

Once the state plan is approved by the Division of Water, the five-year implementation phase will begin. The Authority will continue to identify priority protection areas, develop regional plans, and modify the state plan as needed.

Each producer will be provided with a producer workbook. This workbook will be a farmer-friendly guide that provides practical information on developing site-specific individual water quality plans. The Kentucky Assessment System (KY-A-Syst), a series of informational publications, has been identified by the Authority as a guide in developing the producer workbook. The Authority sees its next challenge as focusing on developing additional outreach and training opportu-

nities for technical advisors and producers. Training sessions and on-farm demonstrations will help implement the provisions of this plan.

The success of the Statewide Agriculture Water Quality Plan will ultimately rest with the decisions each producer makes for his or her individual operation and with the technical and financial assistance that will be available to ensure that proper Best Management Practices are selected and implemented. Increased cost-share assistance for farmers is a key ingredient of the plan's success.

Working with identified technical agencies, Kentucky's landowners and landusers will be able to develop and implement site-specific plans to address water quality concerns.

The legislation that brought about development of the Agriculture Water Quality Plan is unique in its approach to

involve industry in the development and implementation of a program to address environmental concerns. The program is intended to be industry-friendly while protecting the environment. Since enactment of this legislation in July 1994, the Authority has been working to accomplish the numerous tasks assigned to it by the General Assembly.

Over this nearly two-year period, the Authority has established five working committees that have involved more than 250 individuals representing agriculture, agri-business, woodland owners, and research, technical and regulatory agencies to assist in development of the state plan.

Under provision of the act, the Authority is administratively attached to the Natural Resources and Environmental Protection Cabinet. The responsibility of providing staff support has been assigned to the Division of Conservation.

## Kentucky River Sweep hauls off another successful cleanup

High water and potential hazards to volunteers delayed the sixth Kentucky River Basin Clean Sweep, coordinated each year by the Kentucky River Authority, for three weeks this summer. However, the change in dates from June 1 to June 22 did not affect the success of the cleanup along the river banks.

This year's Clean Sweep was an excellent opportunity for individuals, groups and community organizations to make a difference in the quality of their environment.

More than 400 volunteers from 16 counties in the river basin rolled up their sleeves to help clean up one of Kentucky's greatest natural resources. Special appreciation for a job well done goes to Kentucky American Water Co. employees who helped with the Clean Sweep.

Contributions from local businesses, including Coleman Lumber, Fox 56, Spectrum Graphics and Wal-Mart, also helped make the event a success.

The amount of debris along the banks was less this year than in past years, according to Sue Ann Elliston, Clean Sweep coordinator. "Hopefully, the public is becoming more aware of the environ-



Kentucky River Authority photo

**Jessamine County participants in the 1996 Clean River Sweep stand proudly behind the trash and debris they picked up along the riverbank.**

mental and public health problems associated with illegal dumping and is beginning to dispose of household waste properly," she added.

Future Clean Sweeps will be held on the third Saturday in June. Adoption of this date will allow coordination with the Ohio River Sweep and adequate time for advertisement and volunteer recruitment. Thanks to all who participated in this year's Clean Sweep!



# Three scholarship students named for 1996

Three college students pursuing studies in environmental areas have recently accepted scholarships from the Kentucky Natural Resources and Environmental Protection Cabinet.

The students and their major areas of study are Brian Howell, Island, a junior civil engineering major at the University of Kentucky; Wesley Turner, Frankfort, a senior geology major at Eastern Kentucky University; and Heather Willis, Littleton, CO, a junior civil engineering major at the University of Kentucky.

This is the sixth year for the scholarship program. It was authorized as a part of the 1990 Kentucky Environmental Management Plan. Approximately four scholarships per year are authorized to be given to students pursuing degrees in areas critical to the cabinet's program needs. The scholarships cover the approximate cost of tuition, room and board, books and fees.

In their first scholarship-supported semester, recipients must become enrolled in one of Kentucky's public universities as at least a junior. They are also expected to accept employment with the cabinet upon graduation.

The cabinet has awarded 24 scholarships to date. Students in the program have come from Murray State University,



**This year's environmental scholarship students are Wesley Turner, left, Heather Willis and Brian Howell.**

Division of Creative Services photo

Morehead State University, Eastern Kentucky University, the University of Louisville, and the University of Kentucky. Sixteen recipients of awards from the first five years of the program have graduated and are employed with the cabinet. The cabinet hopes students at universities throughout Kentucky will be encouraged to follow courses of study that will benefit the environment.

The Kentucky Water Resources Research Institute, with programs across the state, and the University of Kentucky

Research Foundation administer the scholarship program with the cabinet. Persons who are interested in applying must file an application with the Institute by Feb. 15 to be considered for funding in the following fall semester. For further information about the program, contact the Institute at 606/257-1299 or Glenda Abrams, Kentucky Department for Environmental Protection, 14 Reilly Road, Frankfort, KY 40601, telephone 502/564-2150.

## Forecasting state's environmental future not easy

Nearly three years ago, *Kentucky Outlook 2000: A Strategy for Kentucky's Third Century* was created to determine what Kentuckians want the commonwealth to be like in the future and what strategies must be developed to achieve that vision.

Under the guidance of the Kentucky Long-Term Policy Research Center, information was gathered to identify future policies for the commonwealth that would have the greatest potential for achieving enhanced socio-economic well-being. Another track of the project, guided by the Natural Resources and Environmental Protection Cabinet, used comparative risk techniques to identify and test alternatives for a stronger natural environment.

The conclusions of the futures project, *Forecasting Kentucky's Environmental*

*Futures*, were released this summer. Authors of the report, Thomas S. Lyons, Peter B. Meyer and Vincent Muni of the Kentucky Institute for the Environment and Sustainable Development at the University of Louisville, point out the need in Kentucky for sustainable development, a balance between economic development and environmental protection.

For the past several years, Kentuckians in the environmental and business communities have been receptive to the idea of sustainable development, but were uncertain of where or how to begin. The *Forecasting Kentucky's Environmental Futures* project says that for Kentucky to prosper, decision makers must have adequate information on the environmental outcomes of choices they must make in economic development.

"The bottom-line conclusion is that we can't treat the environment and the economy as in opposition to each other," said Meyer, director and professor of Urban Policy and Economics at U of L. A balance of economic development and environmental protection must be sought in Kentucky.

The futures report used as its basis for environmental scenarios the draft document of the Comparative Risk project. This report is undergoing its final technical review and should be released in late fall.

For more information about *Forecasting Kentucky's Environmental Futures*, contact the authors at 426 West Bloom St., Louisville, KY 40208.



# Hazardous waste seminars set for early 1997

The Natural Resources and Environmental Protection Cabinet's Division of Waste Management will conduct four seminars on new hazardous waste regulatory requirements set to go into effect in late 1996.

The seminars will cover new requirements for waste oil and universal waste. Standards for hazardous waste generators and for treatment, storage and disposal facilities also will be discussed.

Seminar announcements with complete information will be

mailed to hazardous waste generators and facilities in a few weeks.

Tentative dates and locations for the seminars are:

Jan. 28, 1997 — Lexington for generators

Feb. 3, 1997 — Louisville for generators

Feb. 4, 1997 — Louisville for facilities

Feb. 12, 1997 — Owensboro for generators

For more information, contact Bill Schneider, Division of Waste Management, at 502/564-6716.

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